



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

July 16, 2003

100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

RE: **Metal Source, LLC 169-17189-00060**

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) the date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for consideration at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosure

FNPER.wpd 8/21/02

MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Metal Source, LLC
505 West Canal Street
Wabash, Indiana 46992**

(herein known as the Permittee) is hereby authorized to *construct and* operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

| | |
|---|--|
| Operation Permit No.: MSOP 169-17189-00060 | |
| Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality | Issuance Date: July 16, 2003 Expiration Date: July 16, 2008 |

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a secondary zinc and aluminum processing operation.

Authorized Individual: Benjamin Gebhart, General Manager
Source Address: 505 West Canal Street, Wabash, Indiana 46992
Mailing Address: P.O. Box 238, Wabash, Indiana 46992
General Source Phone: 260-563-8833
SIC Code: 3341
County Location: Wabash
Source Location Status: Attainment for all criteria pollutants

Source Status: Minor Source Operating Permit
Minor Source, under PSD or Emission Offset Rules;
Minor Source, Section 112 of the Clean Air Act
1 of 28 Source Categories

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) One (1) Kettle Sweat Furnace operating at 0.5 ton/hr maximum capacity with Cyclone Separator and Baghouse.
- (b) One(1) Ball Mill and One(1) Cyclone Separator.
- (c) One(1) Pot Kettle Furnace.
- (d) Two (2) Gas Burners for heating the Sweat Furnace operating at 0.8 MMBtu/hr each - total 1.6 MMBtu/hr.
- (e) One(1) Gas Burner for heating the Pot Kettle Furnace operating at 0.96 MMBtu/hr.
- (f) One Space Heater operating at 0.2 MMBtu/hr maximum capacity.

SECTION B GENERAL CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

B.6 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.7 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2-6.1-6 and an Operation Permit

Validation Letter is issued.

- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).

B.8 Phase Construction Time Frame

Pursuant to 326 IAC 2-2-8(Revocation of Permits), the IDEM may revoke this permit to construct if the:

- (a) Construction of the Kettle Sweat Furnace has not begun within eighteen (18) months from the effective date of this permit or if during the construction of the Kettle Sweat Furnace work is suspended for a continuous period of eighteen (18) months or more.
- (b) Construction of the Kettle Sweat Furnace has not begun within eighteen (18) months after the operation of the Kettle Sweat Furnace or if during the construction of the Kettle Sweat Furnace, work is suspended for a continuous period of eighteen (18) months or more unless the Permittee elects to not move forward with phase two.

The OAQ may extend such time upon satisfactory showing that an extension, formally requested by the Permittee is justified.

B.9 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Branch, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

B.10 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each emissions unit:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMP's shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMP whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

B.11 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.12 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.13 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

B.14 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

| |
|---------------|
| Entire Source |
|---------------|

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [40 CFR 52 Subpart P][326 IAC 6-3-2]

- (a) Pursuant to 40 CFR 52 Subpart P, the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.5 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

The Permittee shall comply with the applicable requirements of 326 IAC 14-10, 326 IAC 18, and 40 CFR 61.140.

Compliance Requirements [326 IAC 2-1.1-11]

C.7 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

Compliance Monitoring Requirements

C.8 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.9 Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.10 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) Whenever a condition in this permit requires the measurement of total static pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a (*temperature or flow rate*), the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) The Preventive Maintenance Plan for the pH meter shall include calibration using known standards. The frequency of calibration shall be adjusted such that the typical error found at calibration is less than one pH point.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

C.11 Compliance Response Plan - Preparation and Implementation

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
 - (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
 - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall constitute a violation of the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
 - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

- (d) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

Record Keeping and Reporting Requirements

C.12 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.13 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented when operation begins.

C.14 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this permit, any notice, report, or other submission

required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

- (c) Unless otherwise specified in this permit, any semi-annual report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (a) One (1) Kettle Sweat Furnace operating at 0.5 ton/hr maximum capacity with Cyclone Separator and Baghouse.
- (b) One(1) Ball Mill and One(1) Cyclone Separator.
- (c) One(1) Pot Kettle Furnace.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]

The PM from the Kettle Sweat Furnace, the Ball Mill or the Pot Kettle Furnace operations shall not exceed the following when operating at a process weight rate as shown.

| Facility | Process Weight Rate (ton/hr) | Allowable PM (lb/hr) |
|--|------------------------------|----------------------|
| Kettle Sweat Furnace | 3.63 | 2.58 |
| Ball Mill | 4.25 | 6.52 |
| Pot Kettle Furnace - Melting, Pouring, and Casting | 0.08+ 0.62+ 0.31=1.01 | 3.44 |

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

As 3.63 lb/hr is greater than 2.58 lb/hr, the cyclone separator and baghouse shall be in operation at all times the kettle sweat furnace is in operation, in order to comply with this limit.

D.1.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, particulate from the Kettle Sweat Furnace shall be controlled by a baghouse, and the Permittee shall operate the control device in accordance with manufacturer's specifications. This requirement to operate the control is not federally enforceable.

D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.4 Visible Emissions Notations

- (a) Daily visible emission notations of the Kettle Sweat Furnace stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

D.1.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the Kettle Sweat Furnace, at least once per shift when the Kettle Sweat Furnace is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation and Implementation. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.6 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the woodworking operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a

timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

- (b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced.

D.1.8 Cyclone Inspections

An inspection shall be performed each calendar quarter of all cyclones controlling the operations when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.1.9 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.10 Record Keeping Requirements

- (a) To document compliance with Condition D.1.4, the Permittee shall maintain records of daily visible emission notations of the Kettle Sweat Furnace stack exhaust.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain the following:
 - (1) Weekly records of the total static pressure drop during normal operation when venting to the atmosphere.
- (c) To document compliance with Condition D.1.6 and D.1.8 the Permittee shall maintain records of the results of the inspections required under Conditions D.1.6 and D.1.8.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.11 Reporting Requirements

There are no reporting requirements for this source.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (d) Two (2) Gas Burners for heating the Sweat Furnace operating at 0.8 MMBtu/hr each - total 1.6 MMBtu/hr.
- (e) One(1) Gas Burner for heating the Pot Kettle Furnace operating at 0.96 MMBtu/hr.
- (f) One Space Heater operating at 0.2 MMBtu/hr maximum capacity.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

There are no specifically applicable requirements for these facilities.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

| | |
|----------------------|------------------------------|
| Company Name: | Metal Source, LLC |
| Address: | 505 West Canal Street |
| City: | Wabash, Indiana 46992 |
| Phone #: | 260-563-8833 |
| MSOP #: | 169-17189-00060 |

I hereby certify that Metal Source, LLC is ☒ still in operation. ☐ no longer in operation.

I hereby certify that Metal Source, LLC is ☒ in compliance with the requirements of MSOP 169-17189-00060.

☐ not in compliance with the requirements of MSOP 169-17189-00060.

| | |
|---------------------------------------|--|
| Authorized Individual (typed): | |
| Title: | |
| Signature: | |
| Date: | |

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

| | |
|-----------------------|--|
| Noncompliance: | |
| | |
| | |
| | |
| | |
| | |
| | |

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. (_____) _____

LOCATION: (CITY AND COUNTY) _____

PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____

INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/19____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/19____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

**Indiana Department of Environmental Management
Office of Air Quality**

**Addendum to the
Technical Support Document (TSD) for a for a Minor Source Operating
Permit**

Source Background and Description

| | |
|------------------------------|--|
| Source Name: | Metal Source, LLC |
| Source Location: | 505 West Canal Street, Wabash, Indiana 46992 |
| County: | Wabash |
| SIC Code: | 3341 |
| Operation Permit No.: | 169-17189-00060 |
| Permit Reviewer: | Walter Habeeb |

On May 22, 2003, the Office of Air Quality (OAQ) had a notice published in the Wabash Dealer, located in Wabash, Indiana, stating that Metal Source, LLC had applied for a MSOP to operate a stationary secondary zinc and aluminum metal processing plant. The notice also stated that the OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On June 16, 2003, Paul B. Lewis (President of the Wabash City Council) submitted a comment on the proposed permit. The summary of the comment and corresponding response is as follows:

Comment:

Metal Source, LLC is located in a residential neighborhood, one and a half (1½) blocks from the Honeywell Center and should not be allowed to operate in this neighborhood. Mr. Lewis is asking IDEM to refuse the request to operate and to shut the operation down at its present location.

Response:

Metal Source, LLC emissions are within the limits of a Minor Source Operating Permit. IDEM has therefore, in accordance with the air pollution laws of the State of Indiana and the USEPA, issued Metal Source, LLC a Minor Source Operating Permit. IDEM, OAQ does not have jurisdiction in specifying and implementing requirements for zoning, odor or noise.

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name: Metal Source, LLC
Source Location: 505 West Canal Street, Wabash, Indiana 46992
County: Wabash
SIC Code: 3341
Operation Permit No.: 169-17189-00060
Permit Reviewer: Walter Habeeb

The Office of Air Quality (OAQ) has reviewed an application from Metal Source, LLC relating to the construction and operation of a secondary zinc and aluminum metal processing operation.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) Kettle Sweat Furnace operating at 0.5 ton/hr maximum capacity with Cyclone Separator and Baghouse.
- (b) One(1) Ball Mill and One(1) Cyclone Separator.
- (c) One(1) Pot Kettle Furnace.
- (d) Two (2) Gas Burners for heating the Sweat Furnace operating at 0.8 MMBtu/hr each - total 1.6 MMBtu/hr.
- (e) One(1) Gas Burner for heating the Pot Kettle Furnace operating at 0.96 MMBtu/hr.
- (f) One Space Heater operating at 0.2 MMBtu/hr maximum capacity.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) R 169-11937-00060, issued on April 25, 2000.

All conditions from previous approvals were incorporated into this permit.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the Cyclone Separators be considered as an integral part of the secondary zinc and aluminum metal processing operation:

- (a) The cyclone separator for the Sweat Furnace functions as a spark arrester by capturing lit embers escaping from the Sweat Furnace.
- (b) The cyclone separator for the Pot Kettle Furnace functions as a spark arrester by capturing lit embers escaping from the Ball Mill.
- (c) If the cyclone separators were not used the safety of the workers and the plant would be in jeopardy as the baghouse or other parts of the plant could ignite.

IDEM, OAQ has evaluated the justifications and agreed that If the cyclone separators were not used the safety of the workers and the plant would be in jeopardy as the baghouse or other parts of the plant could ignite. Therefore the cyclone separators will be considered as an integral part of the secondary metal processing operation. The permitting level will be determined using the potential to emit after the cyclone separators. Operating conditions in the proposed permit will specify that this cyclone separators shall operate at all times when the secondary zinc and aluminum metal processing is in operation.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (°F) |
|----------|---------------|------------------|--------------------|---------------------|---------------------|
| Sweat 1 | Sweat Furnace | 30 | 6" | 11, 000 | 130 |
| | | | | | |

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 6, 2003, with additional information received on February 14, 2003, March 28, 2003 and April 7, 2003.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 9)

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control

agency.”

| Pollutant | Potential To Emit (tons/year) |
|-----------------|-------------------------------|
| PM | - |
| PM-10 | 39.0 |
| SO ₂ | 0.04 |
| VOC | 5.26 |
| CO | 1.1 |
| NO _x | 1.2 |

| HAP's | Potential to Emit (tons/yr) |
|-----------|-----------------------------|
| Manganese | 0.36 |
| Cadmium | 0.36 |
| Chromium | 0.36 |
| Nickel | 0.36 |
| Total | 1.44 |

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM₁₀ are equal to or greater than 25 tons per year but less than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1.

County Attainment Status

The source is located in Wabash County.

| Pollutant | Status |
|-----------------|------------|
| PM-10 | Attainment |
| SO ₂ | Attainment |
| NO ₂ | Attainment |
| Ozone | Attainment |
| CO | Attainment |
| Lead | Attainment |

- (a) Volatile organic compounds (VOC's) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Wabash County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

| Pollutant | PM (ton/yr) | PM ₁₀ (ton/yr) | SO ₂ (ton/yr) | VOC (ton/yr) | CO (ton/yr) | NO _x (ton/yr) |
|-----------------------|----------------|------------------------------|-----------------------------|-----------------|----------------|-----------------------------|
| Proposed Modification | - | 39.0 | 0.04 | 5.26 | 1.1 | 1.2 |
| PSD Threshold Level | 100 | 100 | 100 | 100 | 100 | 100 |

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit CP-169-17189-00060, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Wabash County and the potential to emit VOC and NO_x is less than ten (10) tons per year. The source is one of the twenty-eight (28) listed sources and its potential to emit PM10 is less than one-hundred (100) tons per year including fugitive emissions. It does not meet any criteria set forth in 326 IAC 2-6-1(Applicability of Rule), therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternate Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 Particulate emission limitations, work practices and control technologies

The particulate from the secondary zinc and aluminum processing operation shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

For Kettle Sweat Furnace

P = 0.5 tons per hour

$$E = 4.10 (0.5)^{0.67} = 2.58 \text{ lb/hr (allowable)}$$

Actual (without baghouse)

$$E = \frac{(15.9 \text{ ton}) (1 \text{ yr}) ((2000 \text{ lb}))}{(\text{yr}) (8760 \text{ hr}) (1 \text{ ton})} = 3.63 \text{ lb/hr}$$

Actual (with baghouse)

Baghouse efficiency = 99.7%

$$\text{PM}_{10} = \frac{(15.9 \text{ ton}) (1 \text{ yr}) (2000 \text{ lb})}{(\text{yr}) (8760 \text{ hr}) (1 \text{ ton})} = 0.048 \text{ ton/yr}$$

$$E = \frac{(0.048 \text{ ton}) (1 \text{ yr}) ((2000 \text{ lb}))}{(\text{yr}) (8760 \text{ hr}) (1 \text{ ton})} = 0.01 \text{ lb/hr}$$

As 3.63 lb/hr is greater than 2.53 lb/hr, the cyclone separator and baghouse shall be in operation at all times the kettle sweat furnace is in operation, in order to comply with this limit.

For Ball Mill

P = 2.0 tons per hour

$$E = 4.10 (2.0)^{0.67} = 6.52 \text{ lb/hr (allowable)}$$

Actual

$$E = \frac{(18.6 \text{ ton}) (1 \text{ yr}) (2000 \text{ lb})}{(\text{yr}) (8760 \text{ hr}) (1 \text{ ton})} = 4.25 \text{ lb/hr}$$

Since the hourly emission of 4.25 lb/hr is less than the allowable emission of 6.52 lb/hr, the process complies with this rule without emission controls.

For Pot Kettle Furnace

P = 0.77 tons per hour

$$E = 4.10 (0.77)^{0.67} = 3.44 \text{ lb/hr (allowable)}$$

The following emission factors are from Table 12.14-2

E - Melting = 0.08 lb/hr

E - Pouring = 0.62 lb/hr

E - Casting = 0.31 lb/hr

E - Total(Actual) = 1.01 lb/hr

Since 1.01 lb/hr is less than the allowable emission of 3.44 lb/hr, the process complies with this rule without emission controls.

Conclusion

The construction and operation of this secondary zinc and aluminum metal processing operation shall be subject to the conditions of the attached proposed Minor Source Operating Permit 169-17189-00060.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****Company Name: Metal Source, LLC****Address City IN Zip: P.O.Box 238, Wabash, IN 46992****CP: CP 169-17189****Plt ID: PLt 169-00060****Reviewer: Walter Habeeb****Date: February, 20, 2003**Heat Input Capacity
MMBtu/hrPotential Throughput
MMCF/yr

Sweat Furnace Heaters (2) @ 0.8 MMBtu/hr each

1.6

14.0

| Pollutant | | | | | | |
|-------------------------------|------------|--------------|------------|-----------------------------|------------|------------|
| Emission Factor in lb/MMCF | PM* 1.9 | PM10* 7.6 | SO2 0.6 | NOx 100.0 **see below | VOC 5.5 | CO 84.0 |
| Potential Emission in tons/yr | 0.0 | 0.1 | 0.0 | 0.7 | 0.0 | 0.6 |

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

gasc99.wb3

updated 4/99

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****HAPs Emissions****Company Name: Metal Source, LLC****Address City IN Zip: P.O.Box 238, Wabash, IN 46992****CP: CP 169-17189****Plt ID: PLt 169-00060****Reviewer: Walter Habeeb****Date: February, 20, 2003****HAPs - Organics**

| | | | | | |
|-------------------------------|--------------------|----------------------------|-------------------------|-------------------|--------------------|
| Emission Factor in lb/MMcf | Benzene 2.1E-03 | Dichlorobenzene 1.2E-03 | Formaldehyde 7.5E-02 | Hexane 1.8E+00 | Toluene 3.4E-03 |
| Potential Emission in tons/yr | 1.472E-05 | 8.410E-06 | 5.256E-04 | 1.261E-02 | 2.383E-05 |

HAPs - Metals

| | | | | | |
|-------------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMcf | Lead 5.0E-04 | Cadmium 1.1E-03 | Chromium 1.4E-03 | Manganese 3.8E-04 | Nickel 2.1E-03 |
| Potential Emission in tons/yr | 3.504E-06 | 7.709E-06 | 9.811E-06 | 2.663E-06 | 1.472E-05 |

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****Company Name: Metal Source, LLC****Address City IN Zip: P.O.Box 238, Wabash, IN 46992****CP: CP 169-17189****Plt ID: PLt 169-00060****Reviewer: Walter Habeeb****Date: February, 20, 2003**Heat Input Capacity
MMBtu/hrPotential Throughput
MMCF/yr

Pot Kettle Heater

1.0

8.4

| Pollutant | | | | | | |
|-------------------------------|-----|-------|-----|----------------------|-----|------|
| Emission Factor in lb/MMCF | PM* | PM10* | SO2 | NOx | VOC | CO |
| | 1.9 | 7.6 | 0.6 | 100.0 **see below | 5.5 | 84.0 |
| Potential Emission in tons/yr | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.4 |

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

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updated 4/99

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****HAPs Emissions****Company Name: Metal Source, LLC****Address City IN Zip: P.O.Box 238, Wabash, IN 46992****CP: CP 169-17189****Plt ID: PLt 169-00060****Reviewer: Walter Habeeb****Date: February, 20, 2003****HAPs - Organics**

| | | | | | |
|-------------------------------|--------------------|----------------------------|-------------------------|-------------------|--------------------|
| Emission Factor in lb/MMcf | Benzene 2.1E-03 | Dichlorobenzene 1.2E-03 | Formaldehyde 7.5E-02 | Hexane 1.8E+00 | Toluene 3.4E-03 |
| Potential Emission in tons/yr | 8.830E-06 | 5.046E-06 | 3.154E-04 | 7.569E-03 | 1.430E-05 |

HAPs - Metals

| | | | | | |
|-------------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMcf | Lead 5.0E-04 | Cadmium 1.1E-03 | Chromium 1.4E-03 | Manganese 3.8E-04 | Nickel 2.1E-03 |
| Potential Emission in tons/yr | 2.102E-06 | 4.625E-06 | 5.887E-06 | 1.598E-06 | 8.830E-06 |

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****Company Name: Metal Source, LLC****Address City IN Zip: P.O.Box 238, Wabash, IN 46992****CP: CP 169-17189****Plt ID: PLt 169-00060****Reviewer: Walter Habeeb****Date: February, 20, 2003**Heat Input Capacity
MMBtu/hrPotential Throughput
MMCF/yr

Space Heating

0.2

1.8

| Pollutant | | | | | | |
|-------------------------------|------------|--------------|------------|-----------------------------|------------|------------|
| Emission Factor in lb/MMCF | PM* 1.9 | PM10* 7.6 | SO2 0.6 | NOx 100.0 **see below | VOC 5.5 | CO 84.0 |
| Potential Emission in tons/yr | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 |

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

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updated 4/99

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****HAPs Emissions****Company Name: Metal Source, LLC****Address City IN Zip: P.O.Box 238, Wabash, IN 46992****CP: CP 169-17189****Plt ID: PLt 169-00060****Reviewer: Walter Habeeb****Date: February, 20, 2003****HAPs - Organics**

| | | | | | |
|-------------------------------|--------------------|----------------------------|-------------------------|-------------------|--------------------|
| Emission Factor in lb/MMcf | Benzene 2.1E-03 | Dichlorobenzene 1.2E-03 | Formaldehyde 7.5E-02 | Hexane 1.8E+00 | Toluene 3.4E-03 |
| Potential Emission in tons/yr | 1.840E-06 | 1.051E-06 | 6.570E-05 | 1.577E-03 | 2.978E-06 |

HAPs - Metals

| | | | | | |
|-------------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMcf | Lead 5.0E-04 | Cadmium 1.1E-03 | Chromium 1.4E-03 | Manganese 3.8E-04 | Nickel 2.1E-03 |
| Potential Emission in tons/yr | 4.380E-07 | 9.636E-07 | 1.226E-06 | 3.329E-07 | 1.840E-06 |

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Sweat Furnace

The Sweat Furnace produces both Aluminum and Zinc therefore, emissions will be calculated for both with the highest emitting metal used for permit emission levels.

Aluminum

In this process, scrap metal is melted in a "sweat furnace" and poured into ingots. Hot metal embers are given off and would continue to the baghouse and ignite the filter bags. Because of this, a cyclone separator installed between the furnace and baghouse is used to collect the hot embers and shall be considered an integral part of the process. A portion of the emitted particulate is of aerodynamic diameter in excess of 100 microns and is collected by the cyclone. That which is less than 100 microns penetrates the cyclone. This fraction is addressed by the emissions factors from Table 12.8-2 of AP-42. Table 12.8-2 list 14.5 lb/ton as the uncontrolled PM emissions and 0.02 lb/ton SO₂ emissions potential from a Sweating Furnace. We can safely assume the cyclone collects 50% of the PM₁₀ and the other 50% proceeds to the baghouse. Since the cyclone is an integral part of the process, emissions are calculated after the cyclone. Make the "worst case" assumptions that all the particulate is of less than 10 microns, in other words PM=PM₁₀.

$$\text{PM} = \frac{(0.5 \text{ ton}) (14.5 \text{ lb PM}) (8760 \text{ hr}) (1 \text{ ton}) (50\% \text{ emitted})}{(\text{hr}) (1 \text{ ton}) (\text{yr}) (2000 \text{ lb})} = 15.9 \text{ ton/yr}$$

$$\text{PM}_{10} = \frac{(0.5 \text{ ton}) (13.3 \text{ lb PM}) (8760 \text{ hr}) (1 \text{ ton}) (50\% \text{ emitted})}{(\text{hr}) (1 \text{ ton}) (\text{yr}) (2000 \text{ lb})} = 14.6 \text{ ton/yr}$$

$$\text{SO}_2 = \frac{(0.5 \text{ ton}) (0.02 \text{ lb SO}_2) (8760 \text{ hr}) (1 \text{ ton})}{(\text{hr}) (1 \text{ ton}) (\text{yr}) (2000 \text{ lb})} = 0.04 \text{ ton/yr}$$

Zinc

Table 12.14.2 of AP-42 list 11.0 lb/ton as uncontrolled PM emissions from general metallic scrap and 2.40 lb/ton for VOC emission potential from a Sweating Furnace.

$$\text{PM} = \frac{(0.5 \text{ ton}) (11.0 \text{ lb PM}) (8760 \text{ hr}) (1 \text{ ton}) (50\% \text{ emitted})}{(\text{hr}) (1 \text{ ton}) (\text{yr}) (2000) (1 \text{ ton prod.})} = 12.04 \text{ ton/yr}$$

$$\text{PM}_{10} = \frac{(0.5 \text{ ton}) (11.0 \text{ lb PM}) (8760 \text{ hr}) (1 \text{ ton}) (50\% \text{ emitted})}{(\text{hr}) (1 \text{ ton}) (\text{yr}) (2000) (1 \text{ ton prod.})} = 12.04 \text{ ton/yr}$$

$$\text{VOC} = \frac{(0.5 \text{ ton}) (2.40 \text{ lb VOC}) (8760 \text{ hr}) (1 \text{ ton})}{(\text{hr}) (1 \text{ ton}) (\text{yr}) (2000 \text{ lb})} = 5.26 \text{ ton/yr}$$

HAP Emissions

Per the MSDS, the residue contains 1% by weight each of manganese, cadmium, chromium, and nickel. We can safely assume that these HAPs will be a proportionate part of the PM₁₀ that penetrates the separator. Therefore we can calculate the HAP emissions as:

$$\text{Mn} = (15.9 \text{ tons/yr})(1\%) = 0.16 \text{ ton/yr}$$

$$\text{Cd} = (15.9 \text{ tons/yr})(1\%) = 0.16 \text{ ton/yr}$$

$$\text{Cr} = (15.9 \text{ tons/yr})(1\%) = 0.16 \text{ ton/yr}$$

$$\text{Ni} = (15.9 \text{ tons/yr})(1\%) = 0.16 \text{ ton/yr}$$

Ball Mill and Cyclone Separator

In this process, metallic residue is crushed in a ball mill and pneumatically conveyed to a cyclone separator. The cyclone separator is an integral part of the process and not an emission control device. Most of the product is of an aerodynamic diameter in excess of 100 microns. That which is of less than 100 micron diameter "penetrates" the cyclone. That fraction is addressed by the emission factor from Table 12.14-4 of AP-42. There the emission factor is listed as 4.25 lb PM per ton of residue processed. We can make the "worst-case" assumption that all the particulate is of less than 10 microns in aerodynamic diameter, in other words $PM = PM_{10}$. We can assume that the cyclone collects 50% of the PM_{10} and the other 50% is emitted. Since the cyclone separator is an integral part of the process, emissions are calculated after the cyclone.

Emissions

$$PM_{10} = \frac{(2 \text{ tons residue})(4.25 \text{ lb } PM_{10})(50\%)}{(\text{hr}) (\text{ton residue})} = 4.25 \text{ lb/hr}$$

Potential Emissions

$$PM_{10} = \frac{(4.25 \text{ lb})(8,760 \text{ hr})(1 \text{ ton})}{(\text{hr}) (\text{yr}) (2,000 \text{ lb})} = 18.6 \text{ ton/yr}$$

HAP Emissions

Per the MSDS, the residue contains 1% by weight manganese, 1% by weight cadmium, 1% by weight chromium, and 1% by weight nickel. We can safely assume that these HAPs will be a proportionate part of the PM_{10} that penetrates the separator. Therefore we can calculate the HAP emissions as:

$$Mn = (18.6 \text{ tons/yr})(1\%) = 0.2 \text{ ton/yr}$$

$$Cd = (18.6 \text{ tons/yr})(1\%) = 0.2 \text{ ton/yr}$$

$$Cr = (18.6 \text{ tons/yr})(1\%) = 0.2 \text{ ton/yr}$$

$$Ni = (18.6 \text{ tons/yr})(1\%) = 0.2 \text{ ton/yr}$$

Kettle Furnace - Melting, Pouring, and Casting Operations

The proposed source will include a kettle pot for melting zinc "heavies" and pouring them into ingots for sale. The Kettle Furnace produces only Zinc therefore, emissions will be calculated for emissions from Zinc only.

The proposed kettle pot has a capacity of 6,185 lb (3.09 tons) of zinc. The heating equipment (emissions discussed elsewhere) is sized to run a "heat" of zinc every 4 hours. Therefore the capacity of the process can be calculated as:

$$\text{Capacity} = \frac{(3.09 \text{ tons})(\text{heat})}{(\text{heat}) (4 \text{ hr})} = 0.77 \text{ ton/hr}$$

From Table 12.14-2 we find the following emission factors:

Melting (Kettle Pot): 0.1 lb PM₁₀/ton zinc
Pouring: 0.8 lb PM₁₀/ton zinc
Casting (Cooling): 0.4 lb PM₁₀/ton zinc

Make "worst case" assumption that all PM emitted is as PM₁₀

Calculation of Emissions

Melting

$$PM_{10} = \frac{(0.77 \text{ ton zinc})(0.1 \text{ lb PM}_{10})}{(\text{hr})(\text{ton zinc})} = 0.08 \text{ lb/hr}$$

Pouring

$$PM_{10} = \frac{(0.77 \text{ ton zinc})(0.8 \text{ lb PM}_{10})}{(\text{hr})(\text{ton zinc})} = 0.62 \text{ lb/hr}$$

Casting

$$PM_{10} = \frac{(0.77 \text{ ton zinc})(0.4 \text{ lb PM}_{10})}{(\text{hr})(\text{ton zinc})} = 0.31 \text{ lb/hr}$$

Total from Melting, Casting, Pouring Operations

$$PM_{10} = 0.08 + 0.62 + 0.31 = 1.01 \text{ lb/hr}$$

Potential Emissions

$$PM_{10} = \frac{(1.01 \text{ lb})(8,760 \text{ hr})(\frac{1 \text{ ton}}{2,000 \text{ lb}})}{(\text{hr})(\text{yr})} = 4.4 \text{ tons/yr}$$

Total (Uncontrolled) Emissions (tons/yr)

| | PM | PM ₁₀ | SO ₂ | NO _x | VOC | CO |
|-------------------------|----|------------------|-----------------|-----------------|-------------|------------|
| Sweating Fce. & Cyclone | - | 15.9 | 0.04 | - | 5.26 | - |
| Ball Mill & Cyclone | - | 18.6 | - | - | - | - |
| Kettle furnace | - | 4.4 | - | - | - | - |
| Sweat Furnace Heating | - | 0.1 | - | 0.7 | - | 0.6 |
| Kettle Furnace Heating | - | - | - | 0.4 | - | 0.4 |
| Space Heating | - | - | - | 0.1 | - | 0.1 |
| Total | | 39.0 | 0.04 | 1.2 | 5.26 | 1.1 |

